

# Inorganic suspension load from Tokachi River, Hokkaido, Japan

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Terrestrial materials are mainly transported to the ocean through rivers as well as atmosphere. Because the impact of riverine sediment is significant especially in coastal region, it is necessary to evaluate the suspension load from rivers quantitatively in order to examine how biogeochemical cycles in the ocean is affected from terrestrial matters. There has been some reports on the sediment discharge estimation for world large rivers. However, suspension load from Japanese (small) rivers have not been examined well because of the difficulty in direct observation due to large difference in seasonal variability of suspension loads, which is promoted by its high relief and precipitation.

We have conducted observations for suspended materials flowing in the Tokachi River, Hokkaido, Japan. Inorganic fraction was examined through the determination of major element composition using an EDS-XRF.

As a result, it turned out that Al concentration in river water and Ti/Al ratio can be regarded as inorganic suspension load and grain size of mineral particles, respectively. Judging from the lack of correlation between Al concentration and Ti/Al ratio, the mineral composition of suspension flowing through downstream of Tokachi River can be treated as almost constant.

We also tried to calculate total suspension load of the river using the water discharge data and a relationship between Al flux and the discharge. Our estimation was ~24,000 to ~91,000 ton Al / year from July, 2003 to June, 2004, though the data during flood event is not yet enough.